

Data visualisation techniques used in annual Up-rating report

The Government Actuary Department's (GAD) [annual report](#) on the overall balance of the National Insurance Fund (NIF) has just been published.

Our report provides advice to MPs as they scrutinise the government's draft legislation Up-rating Social Security Benefits and updating National Insurance Contribution (NIC) terms.

The report's results project contribution income, benefit payments and the balance of the NIF over the coming financial year.

Main results

The headline results are that:

- income is projected to exceed expenditure by £8.2bn increasing the NIF balance to £44.9bn
- costs of the proposed changes to NICs paid to the NIF are estimated at £2.0bn – these deliver the government's commitment to raise the primary threshold to £9,500 a year saving the typical employee £104 a year
- costs of the proposed benefit increases paid from the NIF are estimated at £3.4bn – these incorporate the government's 'triple lock' policy with pensioners who receive the full basic State Pension getting an extra £263 a year and those receiving the full rate of new State Pension getting an extra £344 a year
- the NIF is not expected to need any top-up from the Treasury
- 5-year projections show the NIF balance increasing up to the 2024-2025 financial year

All the headline results are sensitive to future economic conditions.

Data visualisation

At GAD we continually look for new ways to work. Both in terms of seeking more efficient ways of working and presenting our report conclusions in clear and engaging styles.

For this report we updated our benefit and NICs projection models as part of transferring the calculation processes to our central actuarial services team. We also considered how to use data visualisation to modernise our presentation.

The Up-rating report project was led by GAD Senior Consulting Actuary Chris Morley. He said: "GAD's increased use of our central actuarial services team means improved efficiency, consistency and quality assurance to our calculations, which will bring time and cost savings over many years to come."

“Good data visualisation allows our clients to better understand complex analysis, enabling them to make effective decisions with greater confidence.”

Data science experts in GAD regularly produce informative graphics using a variety of specialist visualisation software and tools. This approach, based on conveying key messages, has helped clients quickly get to the heart of overarching issues.